



Process
Industry
Paper

TURBAIR[®] Vacuum Systems

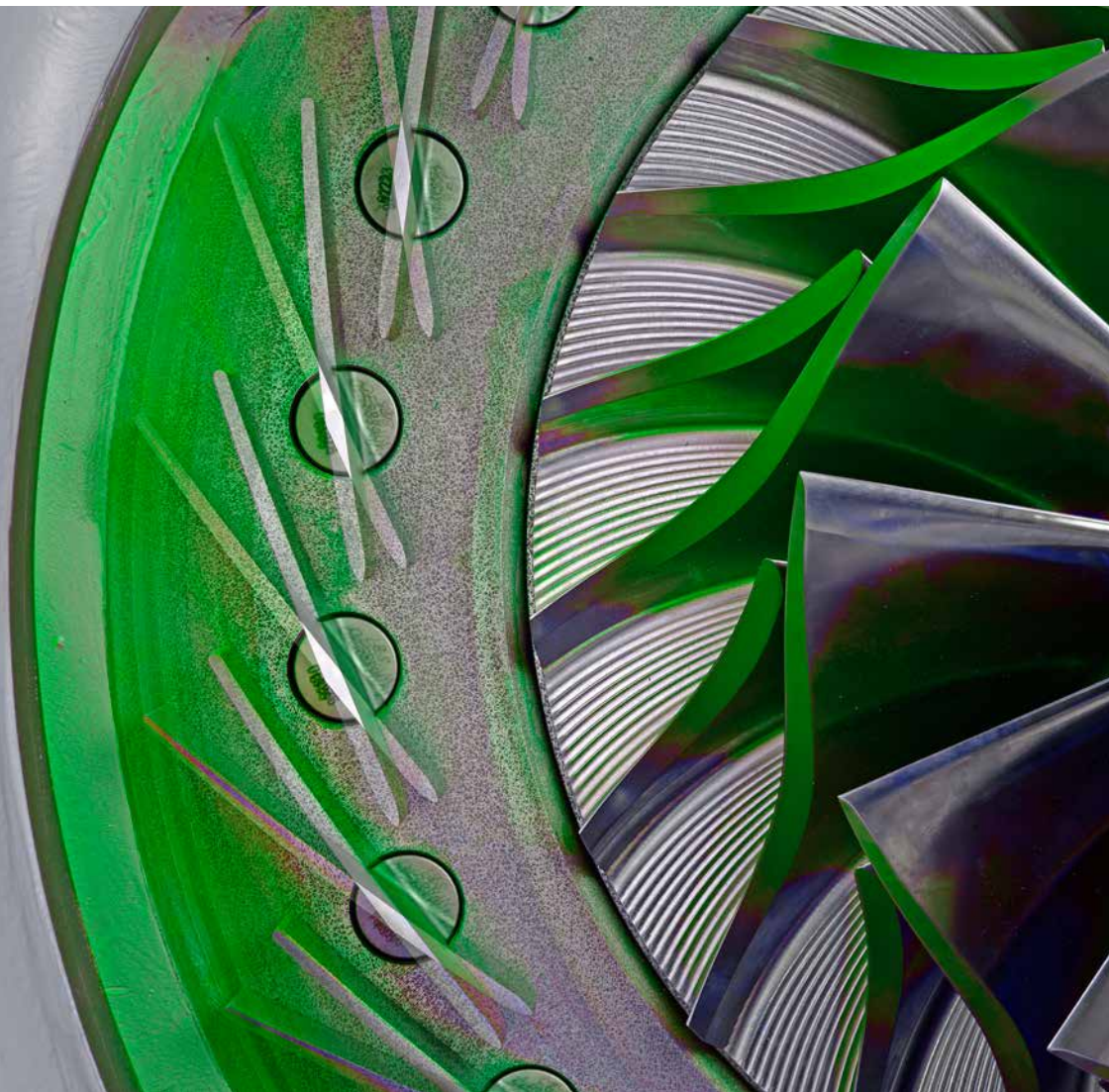
MAN Energy Solutions
Future in the making



for Paper Industry

TURBAIR®

Green technology with huge saving potential



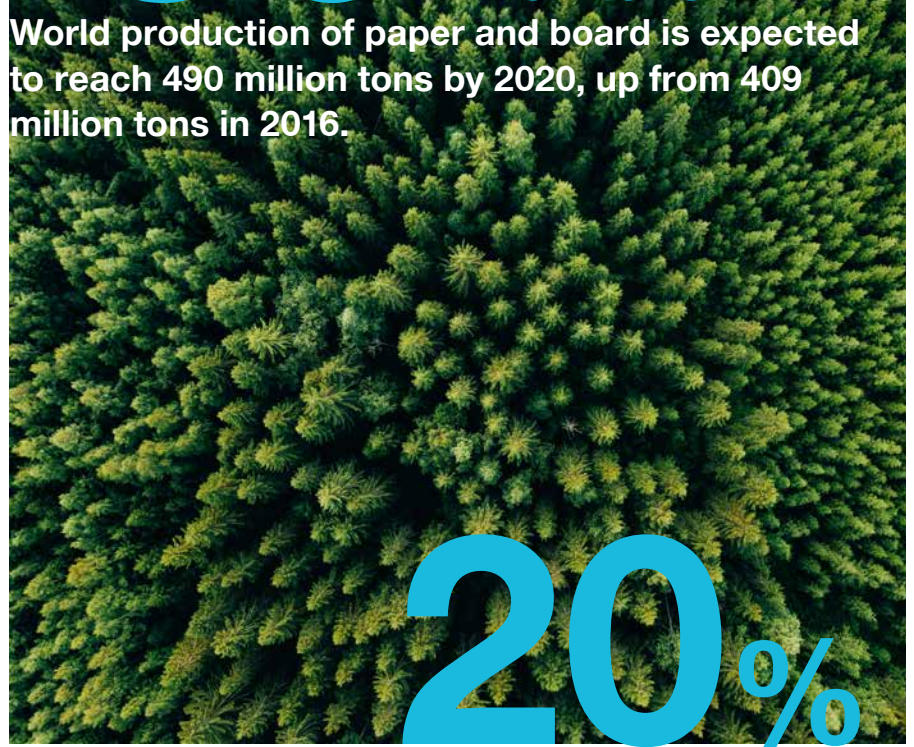
The paper industry faces the rising challenges to reduce CO₂ footprint by lower energy consumption

450 million tons

Tapping into new sources of value creation in a shifting market landscape

This new growth in the forest-fiber and paper industry is fueled by an increasing global demand for board for packaging and tissue papers for hygiene products. Although still a niche market, pulp for textile purposes, too, is gaining traction. But its transformation is not the only challenge the industry faces. To drive value-creating growth, it has to re-define its roles in the market and diversify its portfolios. With the bio-economy creating new business opportunities, pulp and paper manufacturers all around the world are searching for novel wood-fiber materials and applications, as well as new uses for wood and its components.

World production of paper and board is expected to reach 490 million tons by 2020, up from 409 million tons in 2016.



In its 2018 report, the World Bank forecast a jump in prices for energy commodities - such as oil, natural gas, and coal - by 20 percent.

Energy-efficient vacuum technology by MAN for perfect paper

45%

In 2017, Asia accounted for 45 percent of total paper and board demand.

Vacuum systems play a key role in the paper manufacturing process. With TURBAIR®, MAN offers vacuum systems developed specifically for paper sheet dewatering and felt conditioning on paper, board, tissue, and pulp machines.

Vacuum systems handle a wide range of tasks: They dewater the paper sheet, as well as dewater and clean the press felts, which remove moisture from the paper sheet. Vacuum blowers also move paper between sections of the paper machine. In addition, they help recover water for reuse in the production process. Our TURBAIR® vacuum technology is designed to complete these tasks in a sustainable, energy-efficient, and flexible manner.

70%

decrease of energy
related production
costs achievable by
TURBAIR® vacuum
systems

TURBAIR® Vacuum Blowers

TURBAIR® helps to cut the consumption of energy and process water in the paper production. In doing so, it slashes related costs and reduces the environmental footprint. The environmental and economic advantages of MAN vacuum blowers keep customers in the wood-fiber and paper industry competitive.

The amount of vacuum and volume required during paper production varies depending on the type of paper manufactured. The TURBAIR® system adapts dynamically to changing conditions to provide the exact volume and vacuum needed for a perfect result.

MAN TURBAIR® vacuum systems are available in two versions: As a compact single-stage radial blower with a vacuum level of up to 65kPa, or as a multi-stage radial blower with up to four vacuum levels with a maximum of 75kPa, both type with fixed speed or variable speed available.



1,000 units

more than 1,000 TURBAIR® vacuum systems
are in service around the world.

How you benefit:

- Suction flow rates up to 3,000 m³/min
- Efficiencies of up to 85%
- Constant vacuum levels at varying flow rates
- Heat recuperation equivalent of up to 75% of absorbed blower power
- Low noise emission
- No water consumption
- No wearing parts
- Long service life

PM3 of UPM Nordland Papier
dramatically cuts noise,
consumption of energy and water

70+ years

Many TURBAIR® systems
have been running for 70+
years due to the reliable
MAN design.

Our solutions for the forest-fiber
and paper industry are designed
to save water and energy and
keep noise emissions low – help-
ing our customers stay
competitive while proving their
overall environmental impact.

Blower type: **One multistage
blower type RC 80-4 and one
singlestage blower type RT 56-1**

Compared to the previous vacuum
system, follows Energy and Heat
savings were achieved: **44% and
70%, respectively**

Water savings: **10 m³/h**